

## 12. UNUSUALLY HIGH MORTALITY OF CRANES IN AREAS ADJOINING KEOLADEO NATIONAL PARK, BHARATPUR, RAJASTHAN

On November 23, 2000, fifteen cranes – twelve Sarus Cranes *Grus antigone* and three Common Cranes *Grus grus* – were found dead in the agricultural fields of Ajan dam, a temporary water reservoir about 500 m southwest of the Keoladeo National Park, Bharatpur, Rajasthan. The Sarus Crane is a resident, and the Common Crane is a winter migrant to the Park and its adjoining areas from October to March.

The temporary reservoir is the only source of water to the Park. Water retained in the dam during monsoon is used for agricultural practices during the year. There is regular movement of the cranes between the Ajan dam and the Park for food and roosting (Ramachandran and Vijayan 1994).

The reason of death of the cranes could not be ascertained, but circumstantial evidence suggested that they had died due to consumption of pesticide-treated seeds. The buccal cavity, esophagus and gizzard were stuffed with wheat seeds. The farmer confirmed that he had sown the seeds the previous night after treating them with pesticide. He showed the empty container which had Chloropyrifos 25% EC printed on it. The farmer had treated the seeds as it was a drought year, and water scarcity would result in heavy termite infestation. Another reason for treating the seeds with pesticide was to keep birds off the field. The farmer thought that the strong smell of pesticide from the treated grains would prevent the birds from eating them.

Chloropyrifos is a toxic and potent organophosphate. A large number of pesticide preparations are used around Keoladeo National Park, and organophosphates are most commonly used (Prakash and Rana 2001). The organophosphates do not remain in the ecosystem as they disintegrate quickly, but are highly toxic (Newton 1979) and are known to cause mass mortality of birds in areas of usage (Morzer-Bruyne 1963). In parts of Africa, high mortality of birds was recorded during *Quelia* control operations in which

parathion was sprayed from an aircraft (Newton 1979). Lethal levels of pesticides were detected in the tissues of Sarus Crane and Ring Dove (= Eurasian Collared-Dove) *Streptopelia decaocto* in Keoladeo (Vijayan 1991). Detectable quantities of pesticides have been found in the tissues of Sarus Crane, White-backed Vulture *Gyps bengalensis*, Egyptian Vulture *Neophron percnopterus* and fish (A.M. Bhagwat pers. comm. 2001, Prakash and Rana 2001).

Cranes are large, long-lived, slow breeding birds and are prominent indicators of the health of the wetland (Ali and Ripley 1989, Jonhsgard 1983, Meine and Archibald 1996). Nearly 20% of the total population of Sarus Cranes in and around the Park was lost in a day, which is a cause of serious concern.

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### REFERENCES

- ALI, S. & S.D. RIPLEY (1989): Compact Handbook of the Birds of India and Pakistan. Oxford University Press. New Delhi. Pp. 737.
- JONHSGARD, P.A. (1983): Cranes of the World. Indiana University Press, Bloomington, Indiana. 257 pp.
- MEINE, CURT D. & GEORGE W. ARCHIBALD (EDS) (1996): The Cranes: Status survey and conservation action plan. IUCN, Gland, Switzerland and Cambridge, U.K. 294 pp.
- MORZER-BRUYNE (1963): Bird mortality in the Netherlands in the spring of 1960 due to the use of pesticide in agriculture. *ICBP Bull* 9: 70-75
- NEWTON, I. (1979): Population Ecology of raptors. T. and A. Poyser Ltd. England. Pp. 399
- PRAKASH, V. & GARGI RANA (2001): Effect of environmental contamination on raptors with special reference to Shaheen. Unpublished report. Bombay Natural History Society.
- RAMACHANDRAN, N.K. & V.S. VIJAYAN (1994): Distribution and General Ecology of the sarus crane (*Grus antigone*) in Keoladeo National Park, Bharatpur, Rajasthan. *J. Bombay Nat. Hist. Soc.* 91(2): 210-223.
- VIJAYAN, V.S. (1991): Keoladeo National Park Ecology Study. Final Report 1980-1990. Bombay Natural History Society, Bombay. Pp. 337.